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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/192,651 11/16/98 FUEHRER

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EXAMINER

WM02/1023

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ART UNIT

PAPER NUMBER

2644

DATE MAILED:

10/23/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/192,651

Applicant(s)

FUEHRER ET AL.

Examiner

Dr. Ramnandan Singh

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 17 August 2001 have been fully considered but they are not persuasive.

2. Formal drawings filed on June 9, 1999 are approved.

3. **Status of Claims**

Claims 1, 2, 7-9 are amended.

New claims 14-19 are added.

Claims 1-19 are pending.

Note: Claim 7 is also amended.

4. Change of Scope

Amendment to the claims, and adding new claims have changed the scope of the invention defined by these claims. This has necessitated conducting a new search for prior art.

5. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the

Art Unit: 2644

references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, **digital differential bi-directional communications** employ **digital logic** for controlling and processing all subsystem (i.e. a DSP) in conjunction with a clock signal generator for obtaining a plurality of clock signals [Hein; col. 3, lines 40-65]. Further, a digital signal processor (DSP) is a tool that Hershberger et al utilizes in differential communications [col. 6, lines 7-13; col. 6, lines 61-67; col. 7, lines 1-19].

6. Applicant argues that the combination of Hein, Hershberger and Kan would require the use of **large value capacitors**.

The Examiner respectfully disagrees, and directs the Applicant to the Summary of the Invention section of the instant specification. On page 4, lines 22-25; and page 5, lines 1-4; the specification recites "**large capacitors** are used and are configured to form a charge pump". In this context, the Applicant's argument **contradicts** with the disclosure.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Amended claim 1 recites a limitation "said charge pump **doubling** the voltage of said clock signal". This is not supported by the specification. Hence, it lacks enablement

A similar thing hold for claims 2, 7-9.

New claim 15 recites a limitation "**a maximum capacitance of 500 pF**"; and a **minimum of 10 pF**" pages 2-3. This is not supported by the disclosure. Hence, it lacks enablement.

A similar thing holds for new claim 18.

Further, since claims 2-6, 9-19 are dependent claims from the above independents, they also lack enablement.

Claim Rejections - 35 USC § 103

Art Unit: 2644

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hein et al, Hershberger et al, and Kan et al as applied to claims 1-13 in the prior Office action.

Applicant argues that the claimed invention circuit is **a fully differential circuit**; whereas the Hein's circuit is **a pseudo-differential circuit**, because it requires a large value of capacitors.

The Examiner respectfully disagrees. The Hein's interface circuit does not always utilize a high value of capacitance. To make this point, an excerpt from Hein is reproduced:

"In presently preferred embodiments, the actual isolation barrier comprises a pair of isolation capacitors 209 and 210, which are high voltage capacitors that may be chosen for a particular application to prevent DC and low frequency current flow across the barrier and protect the isolated circuitry from high voltage faults and transients, while permitting data at selected transmission frequencies to cross the barrier. The capacitors must be capable of withstanding anticipated voltages that may appear due to faults in the powered circuitry 225, in order to provide the protective function that is the purpose of the barrier. For example, in preferred embodiments ordinary 2000 volt

Art Unit: 2644

capacitors with capacitance **on the order of 100 pF may be utilized in the** isolation barrier. In a barrier system in accordance with the present invention it is not necessary to use high precision capacitors, because the system is very tolerant of variations in capacitor performance due to environmental influences, such as variations in voltage and temperature" [col. 12, lines 41-58].

Clearly, the Hein's interface circuit utilizes capacitance **on the order of 100 pF** which is low-value capacitance, not high-value.

Regarding claims 14-19, all the other limitations have been shown above.

11. Claims 1-19 stand rejected.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Ramnandan Singh whose telephone number is (703)308-6270. The examiner can normally be reached on M-F(8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester Isen can be reached on (703)-305-4386. The fax phone numbers

Art Unit: 2644


for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-0377.

Dr. Ramnandan Singh



October 14, 2001



FORESTER W. ISEN
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